

=> d his

(FILE 'HOME' ENTERED AT 10:19:04 ON 08 JUL 2003)

FILE 'CA' ENTERED AT 10:20:46 ON 08 JUL 2003
S 169436-31-1/REG#

L1 FILE 'REGISTRY' ENTERED AT 10:20:58 ON 08 JUL 2003
1 S 169436-31-1/RN

L2 FILE 'CA' ENTERED AT 10:20:58 ON 08 JUL 2003
4 S L1
S 317385-83-4/REG#

L3 FILE 'REGISTRY' ENTERED AT 10:21:15 ON 08 JUL 2003
1 S 317385-83-4/RN

FILE 'CA' ENTERED AT 10:21:16 ON 08 JUL 2003
L4 1 S L3
L5 4 S L2 OR L4
L6 0 S PEDIOCOCCUS PENTOSAUCEUS
L7 344 S PEDIOCOCCUS PENTOSACEUS
L8 673067 S HYDROXY OR HYDROXYLATION OR (FATTY ACID)
L9 22 S L7 AND L8
L10 631 S BIFIDOBACTERIUM BIFIDUM
L11 53 S L8 AND L10
S A LINOLEIC OR LINOLENIC OR 60-33-3/REG# OR 463-40-1/REG# OR

L12 FILE 'REGISTRY' ENTERED AT 10:40:58 ON 08 JUL 2003
1 S 506-26-3/RN

L13 FILE 'CA' ENTERED AT 10:40:59 ON 08 JUL 2003
3560 S L12

L14 FILE 'REGISTRY' ENTERED AT 10:40:59 ON 08 JUL 2003
1 S 463-40-1/RN

L15 FILE 'CA' ENTERED AT 10:41:00 ON 08 JUL 2003
15209 S L14

L16 FILE 'REGISTRY' ENTERED AT 10:41:00 ON 08 JUL 2003
1 S 60-33-3/RN

FILE 'CA' ENTERED AT 10:41:03 ON 08 JUL 2003
L17 29356 S L16
L18 38953 S A LINOLEIC OR LINOLENIC OR L17 OR L15 OR L13
L19 30516 S HYDROXYLATION
L20 102 S L18 AND L19
L21 592909 S MICROB? OR MICROORG? OR YEAST OR FUNGI
L22 17 S L20 AND L21

FILE 'WPIDS' ENTERED AT 10:49:59 ON 08 JUL 2003
L23 79 S 13 HYDROXY
L24 65380 S (FATTY ACID) OR LINOLENIC OR LINOLEIC
L25 13 S L23 AND L24

FILE 'USPATFULL' ENTERED AT 10:54:16 ON 08 JUL 2003
L26 18374 S LINOLEIC OR LINOLENIC
L27 1708 S 506-26-3/RN OR 463-40-1/RN OR 60-33-3/RN
L28 18481 S L26 OR L27
L29 314 S 13-HYDROXY
L30 753 S 13-HYDROXY?
L31 46 S L30 AND L28

=> log hold

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

22.57

188.08

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

0.00

-12.40

SESSION WILL BE HELD FOR 60 MINUTES

STN INTERNATIONAL SESSION SUSPENDED AT 10:59:31 ON 08 JUL 2003

=> d his

(FILE 'HOME' ENTERED AT 16:15:07 ON 08 JUL 2003)

FILE 'CA' ENTERED AT 16:15:42 ON 08 JUL 2003

L1 741 S DECALACTONE
S 705-86-2/REG#

FILE 'REGISTRY' ENTERED AT 16:15:55 ON 08 JUL 2003

L2 1 S 705-86-2/RN

FILE 'CA' ENTERED AT 16:15:56 ON 08 JUL 2003

L3 556 S L2
L4 980 S L1 OR L3
L5 839 S 13-HYDROXY
L6 4763 S BETA OXIDATION
L7 0 S L4 AND L5 AND L6
L8 3 S L5 AND L4

=> log hold

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

18.77

21.42

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

-1.86

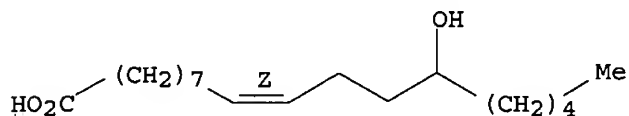
-1.86

SESSION WILL BE HELD FOR 60 MINUTES

STN INTERNATIONAL SESSION SUSPENDED AT 16:20:06 ON 08 JUL 2003

L14 ANSWER 6 OF 25 REGISTRY COPYRIGHT 2003 ACS
RN 169436-31-1 REGISTRY
CN 9-Octadecenoic acid, 13-hydroxy-, (9Z)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 9-Octadecenoic acid, 13-hydroxy-, (Z)-
FS STEREOSEARCH
MF C18 H34 O3
SR CA
LC STN Files: CA, CAPLUS

Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

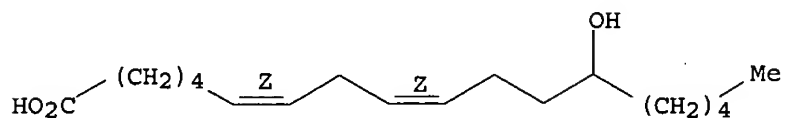
4 REFERENCES IN FILE CA (1957 TO DATE)
4 REFERENCES IN FILE CAPLUS (1957 TO DATE)

=>

=> d

L11 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS
RN 317385-83-4 REGISTRY
CN 6,9-Octadecadienoic acid, 13-hydroxy-, (6Z,9Z)- (9CI) (CA INDEX
NAME)
FS STEREOSEARCH
MF C18 H32 O3
SR CA
LC STN Files: CA, CAPLUS

Double bond geometry as shown.

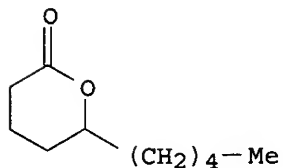


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

=>

L5 ANSWER 20 OF 20 REGISTRY COPYRIGHT 2003 ACS
 RN 705-86-2 REGISTRY
 CN 2H-Pyran-2-one, tetrahydro-6-pentyl- (8CI, 9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Decanoic acid, 5-hydroxy-, .delta.-lactone (6CI)
 OTHER NAMES:
 CN (.+-.)-.delta.-Decalactone
 CN (.+-.)-.delta.-Decanolactone
 CN (.+-.)-5-Hydroxydecanoic acid lactone
 CN (RS)-.delta.-Decalactone
 CN .delta.-Amyl-.delta.-valerolactone
 CN .delta.-Amylvalerolactone
 CN .delta.-Decalactone
 CN .delta.-Decane lactone
 CN .delta.-Decanolactone
 CN .delta.-Pentyl-.delta.-valerolactone
 CN 5-Decanolide
 CN 5-Hydroxydecanoic acid .delta.-lactone
 CN 5-Pentyl-5-pentanolide
 CN 6-Pentyltetrahydro-2H-pyran-2-one
 CN Dihydrojasmin lactone
 FS 3D CONCORD
 DR 35221-79-5
 MF C10 H18 O2
 CI COM
 LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA,
 CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHM,
 HODOC*, IFICDB, IFIPAT, IFIUDB, NAPRALERT, PROMT, RTECS*, SPECINFO,
 TOXCENTER, USPAT2, USPATFULL
 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**, TSCA**
 (**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

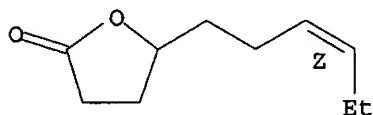
556 REFERENCES IN FILE CA (1957 TO DATE)
 7 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 556 REFERENCES IN FILE CAPLUS (1957 TO DATE)
 28 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=>

=> d 1 2

L4 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2003 ACS
RN 63095-33-0 REGISTRY
CN 2(3H)-Furanone, 5-(3Z)-3-hexenyldihydro- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2(3H)-Furanone, 5-(3-hexenyl)dihydro-, (Z)-
OTHER NAMES:
CN (Z)-.gamma.-Jasmolactone
CN cis-.gamma.-Jasmine lactone
FS STEREOSEARCH
DR 93787-95-2
MF C10 H16 O2
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX,
CHEMLIST, TOXCENTER
(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

Double bond geometry as shown.

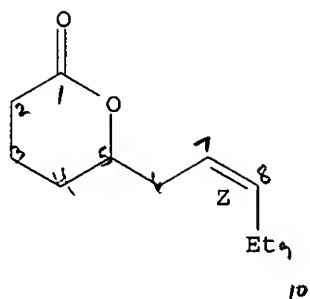


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

19 REFERENCES IN FILE CA (1957 TO DATE)
19 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L4 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2003 ACS
RN 25524-95-2 REGISTRY
CN 2H-Pyran-2-one, tetrahydro-6-(2Z)-2-pentenyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-Pyran-2-one, tetrahydro-6-(2-pentenyl)-, (Z)-
OTHER NAMES:
CN (Z)-7-Decen-5-olide
CN .delta.-Jasmolactone
CN cis-Jasmin lactone
CN Jasmin lactone
CN Jasmine lactone
FS STEREOSEARCH
DR 68170-58-1
MF C10 H16 O2
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA,
CAPLUS, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSChem, NAPRALERT,
TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

Double bond geometry as shown.
Currently available stereo shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

96 REFERENCES IN FILE CA (1957 TO DATE)

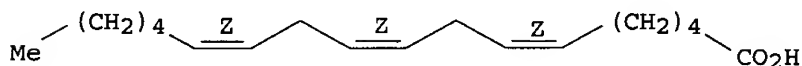
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

97 REFERENCES IN FILE CAPLUS (1957 TO DATE)

=>

L1 ANSWER 17 OF 17 REGISTRY COPYRIGHT 2003 ACS
 RN 506-26-3 REGISTRY
 CN 6,9,12-Octadecatrienoic acid, (6Z,9Z,12Z)- (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN **.gamma.-Linolenic acid (6CI, 7CI, 8CI)**
 CN 6,9,12-Octadecatrienoic acid, (Z,Z,Z)-
 OTHER NAMES:
 CN (Z,Z,Z)-6,9,12-Octadecatrienoic acid
 CN 6(Z),9(Z),12(Z)-Octadecatrienoic acid
 CN 6,9,12-all-cis-Octadecatrienoic acid
 CN 6-cis,9-cis,12-cis-Octadecatrienoic acid
 CN all-cis-6,9,12-Octadecatrienoic acid
 CN cis,cis,cis-6,9,12-Octadecatrienoic acid
 CN cis-6,cis-9,cis-12-Octadecatrienoic acid
 CN **Gamma-linolenic acid**
 CN Gamolenic acid
 FS STEREOSEARCH
 DR 34615-07-1
 MF C18 H30 O2
 CI COM
 LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*,
 BIOBUSINESS, BIOSIS, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN,
 CHEMCATS, CHEMLIST, CIN, CSCHM, DDFU, DRUGNL, DRUGU, DRUGUPDATES,
 IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, NAPRALERT, PHAR, PROMT,
 RTECS*, TOXCENTER, USAN, USPAT2, USPATFULL, VETU
 (*File contains numerically searchable property data)
 Other Sources: WHO

Double bond geometry as shown.



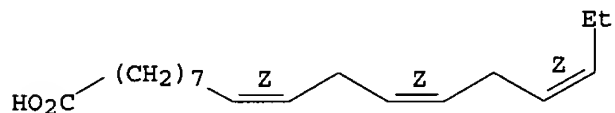
****PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT****

3559 REFERENCES IN FILE CA (1957 TO DATE)
 79 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 3565 REFERENCES IN FILE CAPLUS (1957 TO DATE)
 19 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=>

L17 ANSWER 6 OF 7 REGISTRY COPYRIGHT 2003 ACS
 RN 463-40-1 REGISTRY
 CN 9,12,15-Octadecatrienoic acid, (9Z,12Z,15Z)- (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN 9,12,15-Octadecatrienoic acid, (Z,Z,Z)-
 CN Linolenic acid (8CI)
 OTHER NAMES:
 CN (all-Z)-9,12,15-Octadecatrienoic acid
 CN (Z,Z,Z)-Octadeca-9,12,15-trienoic acid
 CN .alpha.-Linolenic acid
 CN 9,12,15-all-cis-Octadecatrienoic acid
 CN 9-cis,12-cis,15-cis-Octadecatrienoic acid
 CN 9Z,12Z,15Z-Octadecatrienoic acid
 CN all-cis-9,12,15-Octadecatrienoic acid
 CN cis,cis,cis-9,12,15-Octadecatrienoic acid
 CN cis-.DELTA.9,12,15-Octadecatrienoic acid
 CN cis-9,cis-12,cis-15-Octadecatrienoic acid
 FS STEREOSEARCH
 MF C18 H30 O2
 CI COM
 LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS,
 BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB,
 CEN, CHEMCATS, CHEMLIST, CIN, CSCHM, DDFU, DETHERM*, DIPPR*, DRUGU,
 EMBASE, GMELIN*, HODOC*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*,
 MSDS-OHS, NAPRALERT, NIOSHTIC, PIRA, PROMT, SPECINFO, TOXCENTER, TULSA,
 USPAT2, USPATFULL, VETU
 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**, TSCA**
 (**Enter CHEMLIST File for up-to-date regulatory information)

Double bond geometry as shown.



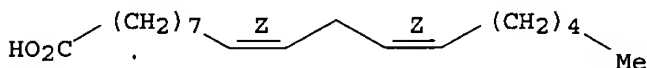
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

15185 REFERENCES IN FILE CA (1957 TO DATE)
 415 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 15211 REFERENCES IN FILE CAPLUS (1957 TO DATE)
 4 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=>

L3 ANSWER 502 OF 502 REGISTRY COPYRIGHT 2003 ACS
 RN 60-33-3 REGISTRY
 CN 9,12-Octadecadienoic acid (9Z,12Z)- (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN 9,12-Octadecadienoic acid (Z,Z)-
 CN Linoleic acid (8CI)
 OTHER NAMES:
 CN (Z,Z)-9,12-Octadecadienoic acid
 CN .alpha.-Linoleic acid
~~CN 9,12-Octadecadienoic acid, (Z,Z)-~~
 CN 9-cis,12-cis-Linoleic acid
 CN 9Z,12Z-Linoleic acid
 CN 9Z,12Z-Octadecadienoic acid
 CN 9Z,12Z-Octadecadienoic acid
 CN all-cis-9,12-Octadecadienoic acid
 CN cis,cis-Linoleic acid
 CN cis-.DELTA.9,12-Octadecadienoic acid
 CN cis-9,cis-12-Octadecadienoic acid
 CN Emersol 315
 CN Extra Linoleic 90
 CN Linolic acid
 CN Polylin 515
 CN Unifac 6550
 FS STEREOSEARCH
 MF C18 H32 O2
 CI COM
 LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS,
 BIOSIS, BIOTECHNO, CA, CABA, CAOLD, CAPLUS, CASREACT, CBNB, CEN,
 CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHM, CSNB, DDFU, DETHERM*,
 DIOGENES, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT,
 ENCOMPPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA,
 MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*, PIRA, PROMT,
 RTECS*, SPECINFO, TOXCENTER, TULSA, USPAT2, USPATFULL, VETU
 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**, TSCA**
 (**Enter CHEMLIST File for up-to-date regulatory information)

Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

29283 REFERENCES IN FILE CA (1957 TO DATE)
 1196 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 29325 REFERENCES IN FILE CAPLUS (1957 TO DATE)
 10 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=>

L20 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS

RN 112-80-1 REGISTRY

CN 9-Octadecenoic acid (9Z)- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 9-Octadecenoic acid (Z)-

CN **Oleic acid (8CI)**

OTHER NAMES:

CN .DELTA.9-cis-Octadecenoic acid

CN .DELTA.9-cis-Oleic acid

CN 9-cis-Octadecenoic acid

CN 9-Octadecenoic acid, (Z)-

CN 9Z-Octadecenoic acid

CN cis-.DELTA.9-Octadecenoic acid

CN cis-9-Octadecenoic acid

CN cis-Oleic acid

CN D 100

CN D 100 (fatty acid)

CN Edenor ATiO5

CN Edenor FTiO5

CN Emersol 205

CN Emersol 211

CN Emersol 213NF

CN Emersol 214NF

CN Emersol 233

CN Emersol 6313NF

CN Extra Oleic 80R

CN Extra Oleic 90

CN Extra Oleic 99

CN Extra Olein 80

CN Extra Olein 90R

CN Extraolein 90

CN Industrene 105

CN Lunac O-CA

CN Lunac O-LL

CN Lunac O-P

CN Lunac OA

CN NAA 35

CN Neo-Fat 92-04

CN Oleine 7503

CN Pamolyn 100

CN Priolene 6906

CN Priolene 6907

CN Priolene 6928

CN Priolene 6930

CN Priolene 6933

CN Vopcolene 27

CN Wecoline 00

CN Z-9-Octadecenoic acid

FS STEREOSEARCH

DR 8046-01-3, 56833-51-3, 17156-84-2

MF C18 H34 O2

CI COM

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIOGENES, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*, PIRA, PROMT, RTECS*, SPECINFO, TOXCENTER, TULSA, USAN, USPAT2, USPATFULL, VETU, VTB

(*File contains numerically searchable property data)

Other Sources: DSL**, EINECS**, TSCA**

(**Enter CHEMLIST File for up-to-date regulatory information)

C₁₈

=> s linoleic acid/cn
L19 1 LINOLEIC ACID/CN

=> d

L19 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS

RN 60-33-3 REGISTRY

CN 9,12-Octadecadienoic acid (9Z,12Z)- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 9,12-Octadecadienoic acid (Z,Z)-

CN Linoleic acid (8CI)

OTHER NAMES:

CN (Z,Z)-9,12-Octadecadienoic acid

CN .alpha.-Linoleic acid

CN 9,12-Octadecadienoic acid, (Z,Z)-

CN 9-cis,12-cis-Linoleic acid

CN 9Z,12Z-Linoleic acid

CN 9Z,12Z-Octadecadienoic acid

CN 9Z,12Z-Octadecadienoic acid

CN all-cis-9,12-Octadecadienoic acid

CN cis,cis-Linoleic acid

CN cis-.DELTA.9,12-Octadecadienoic acid

CN cis-9,cis-12-Octadecadienoic acid

CN Emersol 315

CN Extra Linoleic 90

CN Linolic acid

CN Polylin 515

CN Unifac 6550

FS STEREOSEARCH

MF C18 H32 O2

CI COM

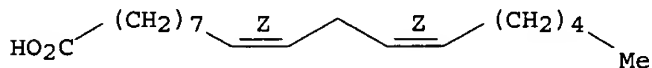
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHM, CSNB, DDFU, DETHERM*, DIOGENES, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*, PIRA, PROMT, RTECS*, SPECINFO, TOXCENTER, TULSA, USPAT2, USPATFULL, VETU

(*File contains numerically searchable property data)

Other Sources: DSL**, EINECS**, TSCA**

(**Enter CHEMLIST File for up-to-date regulatory information)

Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

28134 REFERENCES IN FILE CA (1962 TO DATE)

1159 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

28189 REFERENCES IN FILE CAPLUS (1962 TO DATE)

10 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> s oleic acid/cn

L20 1 OLEIC ACID/CN

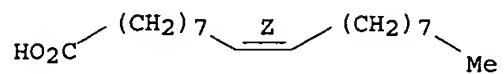
=> d

C₁₈

18-5 = OH on 13

18-6 = ENDS 12

Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

37011 REFERENCES IN FILE CA (1962 TO DATE)
2141 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
37069 REFERENCES IN FILE CAPLUS (1962 TO DATE)
11 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=>

AN 108:130076 CA

TI Process for hydration of unsaturated carboxylic acids using *Acetobacterium woodii*

IN Giesel-Buhler, Hermine; Bartsch, Frank Olaf; Kneifel, Helmut; Sahm, Hermann; Schmid, Rolf

PA Kernforschungsanlage Juelich G.m.b.H., Fed. Rep. Ger.; Henkel K.-G.a.A.

SO Eur. Pat. Appl., 10 pp.

CODEN: EPXXDW

DT Patent

LA German

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI EP 230043 A2 19870729 EP 1986-117926 19861223

EP 230043 A3 19890705

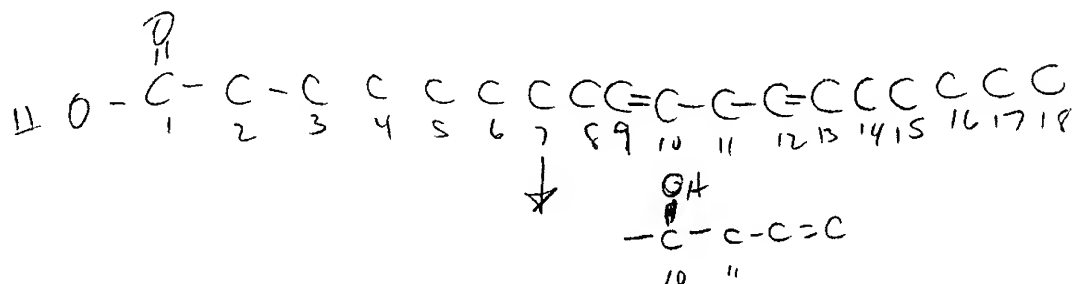
R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE

DE 3600476 A1 19881208 DE 1986-3600476 19860110

JP 62166892 A2 19870723 JP 1987-1973 19870109

PRAT DE 1986-3600476 19860110

AB The manuf. of unsatd. **hydroxy** fatty acids (e.g. ricinoleic acid) from long-chain, unsatd. fatty acids is accomplished by using the **microorganism** *Acetobacterium woodii*. a. *woodii* ATCC 29683 (DSM 1030) was grown to early stationary phase in a medium contg. glucose or glycerin, yeast ext., and salts in an N₂/CO₂ atm. The cells were used immediately (or after storage at -20.degree. under Ar) to manuf. 10-hydroxy-12-octadecenoic acid from linoleic acid. The reaction occurred in a concd. cell suspension contg. .apprx.5 mM linoleic acid and bovine serum albumin. After 15-18 h reaction, the product was extd. and purified by HPLC.



$$\underline{18} - 9 = 9 \text{ emf}$$

$$\underline{18} - 8 = \underline{10} \text{ 0 it}$$

L18 ANSWER 23 OF 32 CA COPYRIGHT 2003 ACS
AN 115:45844 CA
TI Production of **hydroxy** and oxo fatty acids by
microorganisms as a model of adipocere formation
AU Gotouda, Hiroko
CS Sch. Med., Hokkaido Univ., Sapporo, 060, Japan
SO Hokkaido Igaku Zasshi (1991), 66(2), 142-50
CODEN: HOIZAK; ISSN: 0367-6102
DT Journal
LA Japanese
AB Microbial synthesis of **hydroxy** and oxo fatty acids was studied
as one of the model of exptl. adipocere formation. Conversion of various
fatty acids into ~~10-~~**hydroxy** and 10-oxo fatty acids by
Micrococcus luteus was also studied. Fatty acids possessing cis-9-unsatd.
forms were converted into 10-**hydroxy** and 10-oxo fatty acids. On
the other hand, enoic acids possessing trans-9-unsatd. form or the ones
which do not have double bond at the C9 position were inactive as
substrates. 10-Hydroxypalmitic and 10-hydroxystearic acid were converted
into the corresponding 10-oxo fatty acids but the 10-oxo fatty acids were
inactive as substrates. To study the mechanism of the formation of 10-
hydroxy and 10-oxo fatty acids, the crude enzyme prepn. from
Flavobacterium meningosepticum solubilized by sonication was used. The
mechanism of hydration and dehydrogenation was proved by gas
chromatog.-mass spectrometry of 10-**hydroxy** and 10-oxo fatty
acids produced from oleic acid in the presence of D2O or H218O. These
results indicate that oleic acid is **hydrated** to
10-hydroxystearic acid at first and then dehydrogenated to 10-oxostearic
acid.

oleic

L18 ANSWER 21 OF 32 CA COPYRIGHT 2003 ACS
AN 117:107912 CA
TI Microbial conversion of linoleic and linolenic acids to unsaturated
hydroxy fatty acids
AU Koritala, S.; Bagby, M. O.
CS Agric. Res. Serv., Natl. Cent. Agric. Util. Res., Peoria, IL, 61604, USA
SO Journal of the American Oil Chemists' Society (1992), 69(6), 575-8
CODEN: JAOCA7; ISSN: 0003-021X
DT Journal
LA English
AB The conversion of oleic acid to 10-hydroxystearic acid with resting cells
of *Nocardia cholesterolicum* (NRRL 5767) has been previously reported.
These same **microorganisms** also convert linoleic and linolenic
acids to 10-**hydroxy**-12-cis-octadecenoic and 10-**hydroxy**
-12-cis,15-cis-octadecadienoic acids, resp. The reaction occurs best at
35.degree. and a pH of 6.5. Under optimum conditions, 75-80% of the
unsatd. fatty acid substrate is converted to the corresponding
hydroxy acid. The **hydroxy** products were characterized
by gas chromatog., gas chromatog.-mass spectrometry, and NMR and IR
spectroscopy. Other **microorganisms** that successfully converted
these substrates include another strain of *N. cholesterolicum* (NRRL 5768)
and *Nocardia* sp. (NRRL 5636).

=> d bib ab ind

L8 ANSWER 1 OF 1 CA COPYRIGHT 2003 ACS
AN 134:85179 CA
TI Manufacture of .delta.-lactones from fatty acids
IN Saitoh, Chiaki; Masuda, Yukiko; Yashiro, Atsushi; Ishiguro, Hiroki
PA Kyowa Hakko Kogyo Co., Ltd., Japan
SO PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001004339	A1	20010118	WO 2000-JP4535	20000707 <--
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	EP 1197560	A1	20020417	EP 2000-944324	20000707 <--
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
PRAI	JP 1999-192684	A	19990707 <--		
	WO 2000-JP4535	W	20000707		
AB	Aliph. C.gtoREQ.10 fatty acids having even no. of carbon and n-6 double bond are incubated with first microorganism such as <i>Pediococcus</i> to get n-5 hydroxy fatty acids. The n-5 hydroxy fatty acids is incubated with the second microorganism such as <i>Kluyveromyces</i> to obtain .delta.-lactones which are useful as food additives to render fruit and milk flavors. Prepn. of .delta.-decalactone from linolic acid first with <i>P. pentosaceus</i> and then with <i>K. marxianus</i> was shown.				
IC	ICM C12P007-64				
	ICS C07C059-42; C12P017-06; A23L001-03; C12P007-64; C12R001-01; C12P017-06; C12R001-645				
CC	16-5 (Fermentation and Bioindustrial Chemistry) Section cross-reference(s): 17				
ST	delta lactone fermn microorganism aliph fatty acid				
IT	Fatty acids, biological studies RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process) (C.gtoREQ.10 and even no. carbon aliph.; manuf. of .delta.-lactones from fatty acids)				
IT	Fatty acids, biological studies RL: BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation); PROC (Process) (hydroxy, 5-; manuf. of .delta.-lactones from fatty acids)				
IT	Milk (low-fat; manuf. of .delta.-lactones from fatty acids)				
IT	Bifidobacterium Bifidobacterium bifidum Fermentation Food additives Kluyveromyces Kluyveromyces marxianus Kluyveromyces thermotolerans Kluyveromyces wickerhamii Lactic acid bacteria				

Odor and Odorous substances

Pediococcus

Pediococcus pentosaceus

Pichia

Pichia jadinii

Saccharomyces

Saccharomyces cerevisiae

Zygosaccharomyces

Zygosaccharomyces bailii

Zygosaccharomyces cidri

Zygosaccharomyces rouxii

(manuf. of .delta.-lactones from fatty acids)

IT Corn oil

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(manuf. of .delta.-lactones from fatty acids)

IT Soybean (Glycine max)

(milk; manuf. of .delta.-lactones from fatty acids)

IT Lactones

RL: BPN (Biosynthetic preparation); FFD (Food or feed use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(.delta.-; manuf. of .delta.-lactones from fatty acids)

IT 169436-31-1P 301664-23-3P 317385-83-4P

RL: BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation); PROC (Process)

(manuf. of .delta.-lactones from fatty acids)

IT 705-86-2P, .delta.-Decalactone 25524-95-2P, Jasmine lactone

RL: BPN (Biosynthetic preparation); FFD (Food or feed use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(manuf. of .delta.-lactones from fatty acids)

IT 60-33-3, Linolic acid, biological studies 463-40-1, .alpha.-Linolenic acid 506-26-3, .gamma.-Linolenic acid

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(manuf. of .delta.-lactones from fatty acids)

IT 9001-62-1, Lipase MY

RL: CAT (Catalyst use); USES (Uses)

(manuf. of .delta.-lactones from fatty acids)

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=>

RL: BOC (Biological occurrence); BSU (Biological study, unclassified);
 BIOL (Biological study); OCCU (Occurrence)
 (of milk, lactic bacteria fermn. increase of)
 IT Proteins, biological studies
 RL: BIOL (Biological study)
 (whey, lactic bacteria fermn. effect on)
 IT Milk preparations
 (fermented, compn. of, lactic bacteria in relation to)
 IT Bacteria
 (lactic acid, milk component fermn. by)
 IT 50-99-7, Glucose, biological studies 59-23-4, Galactose, biological
 studies
 RL: BIOL (Biological study)
 (of milk fermented by Bifidobacterium bifidus)
 IT 127-17-3, Pyruvic acid, biological studies
 RL: BOC (Biological occurrence); BSU (Biological study, unclassified);
 BIOL (Biological study); OCCU (Occurrence)
 (of milk, lactic bacteria fermn. decrease of)
 IT 50-21-5, biological studies 64-19-7, Acetic acid, biological studies
 110-15-6, Succinic acid, biological studies
 RL: BOC (Biological occurrence); BSU (Biological study, unclassified);
 BIOL (Biological study); OCCU (Occurrence)
 (of milk, lactic bacteria fermn. increase of)
 IT 63-42-3, Lactose
 RL: BOC (Biological occurrence); BSU (Biological study, unclassified);
 BIOL (Biological study); OCCU (Occurrence)
 (of milk, lactic bacteria fermn. of)
 IT 79-09-4, Propionic acid, biological studies 79-31-2, Isobutyric acid
 107-92-6, Butyric acid, biological studies 109-52-4, Valeric acid,
 biological studies 142-62-1, Caproic acid, biological studies
 503-74-2, Isovaleric acid
 RL: BOC (Biological occurrence); BSU (Biological study, unclassified);
 BIOL (Biological study); OCCU (Occurrence)
 (of milk, Bifidobacterium bifidus fermn. decrease of)
 IT 56-40-6, Glycine, biological studies 56-41-7, Alanine, biological
 studies 56-45-1, Serine, biological studies 56-84-8, Aspartic acid,
 biological studies 56-86-0, Glutamic acid, biological studies 56-87-1,
 Lysine, biological studies 60-18-4, Tyrosine, biological studies
 61-90-5, Leucine, biological studies 63-68-3, Methionine, biological
 studies 63-91-2, Phenylalanine, biological studies 71-00-1, Histidine,
 biological studies 72-18-4, Valine, biological studies 72-19-5,
 Threonine, biological studies 73-22-3, Tryptophan, biological studies
 73-32-5, Isoleucine, biological studies 74-79-3, Arginine, biological
 studies 147-85-3, Proline, biological studies
 RL: BOC (Biological occurrence); BSU (Biological study, unclassified);
 BIOL (Biological study); OCCU (Occurrence)
 (of milk, Bifidobacterium bifidus fermn. effect on)

=>

L9 ANSWER 13 OF 22 CA COPYRIGHT 2003 ACS

AN 124:115600 CA

TI Microbial manufacture of .gamma.-dodecalactone from oleic acid

IN Hosoi, Kenji; Ookawa, Takashi

PA Nikka Whisky, Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07274986	A2	19951024	JP 1994-76816	19940415
PRAI	JP 1994-76816		19940415		

AB .gamma.-Dodecalactone (I) is manufd. by treating oleic acid with C-C double bond-hydroxylating microorganisms and treating the resulting I substrates such as 10-hydroxystearic acid with .beta.-oxidizing microorganisms. I-contg. solns. manufd. by the above method is mixed with EtOH-contg. solns. and distd. to give I-contg. liq. compns. Lactobacillus brevis was cultured in 50 mL phosphate buffer contg. 0.5 g oleic acid at 30.degree. for 48 h. The culture soln. was mixed with yeast ext. and polypeptone and Saccharomyces cerevisiae was cultured in the soln. at 30.degree. for 48 h to produce 185 ppm I.

IC ICM C12P017-04

ICI C12P017-04, C12R001-24; C12P017-04, C12R001-865; C12P017-04, C12R001-225; C12P017-04, C12R001-25; C12P017-04, C12R001-46; C12P017-04, C12R001-245; C12P017-04, C12R001-01

CC 16-5 (Fermentation and Bioindustrial Chemistry)

ST dodecalactone manuf microorganism; oleate **hydroxylation** oxidn microorganism; hydroxystearate manuf oxidn microorganism

IT Bifidobacterium

Bifidobacterium bifidum

Candida

Fermentation

Hansenula

Lactobacillus

Lactobacillus brevis

Lactobacillus bulgaricus

Lactobacillus casei

Lactobacillus delbrueckii

Lactobacillus plantarum

Lactobacillus sanfrancisco

Leuconostoc

Leuconostoc mesenteroides

Pediococcus

Pediococcus pentosaceus

Pichia

Saccharomyces

Saccharomyces cerevisiae

Streptococcus

Streptococcus thermophilus

(manuf. of dodecalactone from oleic acid by microbial **hydroxylation** and oxidn.)

IT 64-17-5, Ethanol, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(liq. compns. contg. EtOH and dodecalactone microbially manufd. from oleic acid)

IT 2305-05-7P, .gamma.-Dodecalactone

RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)

(manuf. of dodecalactone from oleic acid by microbial **hydroxylation** and oxidn.)

IT 638-26-6P, 10-Hydroxystearic acid
RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(manuf. of dodecalactone from oleic acid by microbial **hydroxylation** and oxidn.)

IT 112-80-1, Oleic acid, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent)
(manuf. of dodecalactone from oleic acid by microbial **hydroxylation** and oxidn.)

=>

L5 ANSWER 1 OF 4 CA COPYRIGHT 2003 ACS
 AN 134:85179 CA
 TI Manufacture of .delta.-lactones from fatty acids
 IN Saitoh, Chiaki; Masuda, Yukiko; Yashiro, Atsushi; Ishiguro, Hiroki
 PA Kyowa Hakko Kogyo Co., Ltd., Japan
 SO PCT Int. Appl., 36 pp.
 CODEN: PIXXD2

DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001004339	A1	20010118	WO 2000-JP4535	20000707
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1197560	A1	20020417	EP 2000-944324	20000707
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
PRAI	JP 1999-192684	A	19990707		
	WO 2000-JP4535	W	20000707		
AB	Aliph. C.gtoREQ.10 fatty acids having even no. of carbon and n-6 double bond are incubated with first microorganism such as Pediococcus to get n-5 hydroxy fatty acids. The n-5 hydroxy fatty acids is incubated with the second microorganism such as Kluyveromyces to obtain .delta.-lactones which are useful as food additives to render fruit and milk flavors. Prepn. of .delta.-decalactone from linolic acid first with P. pentosaceus and then with K. marxianus was shown.				
IC	ICM C12P007-64 ICS C07C059-42; C12P017-06; A23L001-03; C12P007-64; C12R001-01; C12P017-06; C12R001-645				
CC	16-5 (Fermentation and Bioindustrial Chemistry) Section cross-reference(s): 17				
ST	delta lactone fermm microorganism aliph fatty acid				
IT	Fatty acids, biological studies RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process) (C.gtoREQ.10 and even no. carbon aliph.; manuf. of .delta.-lactones from fatty acids)				
IT	Fatty acids, biological studies RL: BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation); PROC (Process) (hydroxy, 5-; manuf. of .delta.-lactones from fatty acids)				
IT	Milk (low-fat; manuf. of .delta.-lactones from fatty acids)				
IT	Bifidobacterium Bifidobacterium bifidum Fermentation Food additives Kluyveromyces Kluyveromyces marxianus Kluyveromyces thermotolerans Kluyveromyces wickerhamii Lactic acid bacteria Odor and Odorous substances Pediococcus				

Pediococcus pentosaceus
Pichia
Pichia jadinii
Saccharomyces
Saccharomyces cerevisiae
Zygosaccharomyces
Zygosaccharomyces bailii
Zygosaccharomyces cidri
Zygosaccharomyces rouxii

(manuf. of .delta.-lactones from fatty acids)

IT Corn oil

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(manuf. of .delta.-lactones from fatty acids)

IT Soybean (Glycine max)

(milk; manuf. of .delta.-lactones from fatty acids)

IT Lactones

RL: BPN (Biosynthetic preparation); FFD (Food or feed use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(.delta.-; manuf. of .delta.-lactones from fatty acids)

IT 169436-31-1P 301664-23-3P 317385-83-4P

RL: BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation); PROC (Process)

(manuf. of .delta.-lactones from fatty acids)

IT 705-86-2P, .delta.-Decalactone 25524-95-2P, Jasmine lactone

RL: BPN (Biosynthetic preparation); FFD (Food or feed use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(manuf. of .delta.-lactones from fatty acids)

IT 60-33-3, Linolic acid, biological studies 463-40-1, .alpha.-Linolenic acid 506-26-3, .gamma.-Linolenic acid

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(manuf. of .delta.-lactones from fatty acids)

IT 9001-62-1, Lipase MY

RL: CAT (Catalyst use); USES (Uses)

(manuf. of .delta.-lactones from fatty acids)

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

=>

L22 ANSWER 4 OF 17 CA COPYRIGHT 2003 ACS

AN 136:69146 CA

TI Manufacture of liquid compositions containing unsaturated lactones, and distilled alcoholic beverages containing the lactones

IN Koji, Hiroshi; Wanikawa, Akira

PA Nikka Whisky Distilling Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002000287	A2	2002/01/08	JP 2000-221535	20000616
PRAI	JP 2000-221535		20000616		

AB Liq. compns. contg. unsatd. lactones, useful for alc. beverages and flavoring agents, are manufd. by **hydroxylation** of unsatd. fatty acids having .gtoreq.2 unsatd. bonds with the 1st **microorganisms** and treating the products with the 2nd microroganisms having .beta.-oxidn. activity. Linoleic acid (100 ppm) was treated with Lactobacillus casei N5054 (FERM P-16367) in a medium contg. sterilized dried **yeast** at 30.degree. for 24 h and then with Saccharomyces cerevisiae N130 (FERM P-16364) at 30.degree. for 24 h to give 7.1 ppm 6-dodecen-4-olide (I). Whiskey contg. I was manufd.

NPA

L11 ANSWER 30 OF 53 CA COPYRIGHT 2003 ACS

AN 124:115600 CA

TI Microbial manufacture of .gamma.-dodecalactone from oleic acid

IN Hosoi, Kenji; Ookawa, Takashi

PA Nikka Whisky, Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07274986	A2	19951024	JP 1994-76816	19940415
PRAI	JP 1994-76816		19940415		

AB .gamma.-Dodecalactone (I) is manufd. by treating oleic acid with C-C double bond-hydroxylating microorganisms and treating the resulting I substrates such as 10-hydroxystearic acid with .beta.-oxidizing microorganisms. I-contg. solns. manufd. by the above method is mixed with EtOH-contg. solns. and distd. to give I-contg. liq. compns. Lactobacillus brevis was cultured in 50 mL phosphate buffer contg. 0.5 g oleic acid at 30.degree. for 48 h. The culture soln. was mixed with yeast ext. and polypeptone and Saccharomyces cerevisiae was cultured in the soln. at 30.degree. for 48 h to produce 185 ppm I.

IC ICM C12P017-04

ICI C12P017-04, C12R001-24; C12P017-04, C12R001-865; C12P017-04, C12R001-225; C12P017-04, C12R001-25; C12P017-04, C12R001-46; C12P017-04, C12R001-245; C12P017-04, C12R001-01

CC 16-5 (Fermentation and Bioindustrial Chemistry)

ST dodecalactone manuf microorganism; oleate **hydroxylation** oxidn microorganism; hydroxystearate manuf oxidn microorganism

IT Bifidobacterium

Bifidobacterium bifidum

Candida

Fermentation

Hansenula

Lactobacillus

Lactobacillus brevis

Lactobacillus bulgaricus

Lactobacillus casei

Lactobacillus delbrueckii

Lactobacillus plantarum

Lactobacillus sanfrancisco

Leuconostoc

Leuconostoc mesenteroides

Pediococcus

Pediococcus pentosaceus

Pichia

Saccharomyces

Saccharomyces cerevisiae

Streptococcus

Streptococcus thermophilus

(manuf. of dodecalactone from oleic acid by microbial **hydroxylation** and oxidn.)

IT 64-17-5, Ethanol, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(liq. compns. contg. EtOH and dodecalactone microbially manufd. from oleic acid)

IT 2305-05-7P, .gamma.-Dodecalactone

RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)

(manuf. of dodecalactone from oleic acid by microbial **hydroxylation** and oxidn.)

IT 638-26-6P, 10-Hydroxystearic acid
 RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
 (manuf. of dodecalactone from oleic acid by microbial hydroxylation and oxidn.)

IT 112-80-1, Oleic acid, biological studies
 RL: BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent)
 (manuf. of dodecalactone from oleic acid by microbial hydroxylation and oxidn.)

L11 ANSWER 39 OF 53 CA COPYRIGHT 2003 ACS
 AN 110:211208 CA
 TI Fermentation of milk by *Bifidobacterium bifidum* ATCC 11863. Conversion of milk constituents by fermentation
 AU Goh, J. S.; Kwon, I. K.; Ahn, J. K.; Yoon, Y. H.
 CS Coll. Anim. Agric., Kangweon Natl. Univ., S. Korea
 SO Han'guk Ch'uksan Hakhoechi (1988), 30(10), 618-30
 CODEN: HGCHAG; ISSN: 0367-5807
 DT Journal
 LA Korean
 AB The conversion of constituents in whole milk fermented by *B. bifidum* ATCC 11863 was investigated, and the results were compared with those by several lactic acid bacteria generally used for fermented milk products. The use of lactose varied according to the kinds of bacteria, such as *B. bifidum*, *Lactobacillus acidophilus*, *L. casei* and *Streptococcus thermophilus*. When whole milk was fermented by *B. bifidum*, glucose reached 480 mg/100 mL; galactose reached 661 mg/100 mL when *S. thermophilus* was grown in whole milk. *B. bifidum* and *L. acidophilus* increased sol. N compds. in whole milk after 24 h at 37.degree.; however, there was little change in sol. N compds. of whole milk by *L. casei* and *S. thermophilus*. The free amino acids were increased by *B. bifidum* and *L. acidophilus* after 24 h at 37.degree., whereas they decreased when *L. casei* and *S. thermophilus* were grown. Polyacrylamide gel electrophoresis evidenced no significant change of casein but distinct changes of whey protein were obsd. by *B. bifidum*, *L. acidophilus*, *L. casei*, and *S. thermophilus* at 37.degree. after 24 h. The change of whey protein was more noticeable when whole milk was fermented by *L. acidophilus* and *L. casei* than by *B. bifidum* and *S. thermophilus*. The pyruvic acid content was decreased in whole milk after 24 h at 37.degree. by *B. bifidum*, *L. acidophilus*, *L. casei*, and *S. thermophilus*. Lactic and succinic acid were produced during the fermn. of whole milk by *B. bifidum*, *L. acidophilus*, and *L. casei*, but *B. bifidum* produced less lactic acid than other bacteria. Acetic acid was increased in the whole milk by *B. bifidum*, *L. acidophilus*, and *L. casei* after 24 h at 37.degree.. It increased more rapidly with *B. bifidum* than the other bacteria; however, it decreased during fermn. by *S. thermophilus*. When *B. bifidum* was grown in whole milk, volatile org. acids (propionic, isobutyric, butyric, isovaleric, valeric, and caproic) decreased.

CC 17-8 (Food and Feed Chemistry)
 ST milk fermn *Bifidobacterium*; lactose milk *Bifidobacterium*; protein milk *Bifidobacterium*; fatty acid milk *Bifidobacterium*
 IT *Bifidobacterium bifidum*
Lactobacillus acidophilus
Lactobacillus casei
Streptococcus thermophilus
 (milk component fermn. by)
 IT Caseins, biological studies
 RL: BIOL (Biological study)
 (milk fermn. by lactic bacteria effect on)
 IT Amino acids, biological studies